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(19) (CA) APPLICATION FOR CANADIAN PATENT (12)

(54) Clingable Film Label Assembly and Method

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CLINGABLE FILM LABEL ASSEMBLY AND METHOD

ABSTRACT OF THE DISCLOSURE:

A clingable film assembly and method for use on glass or other surfaces which includes a polyester label having printing thereon and a low tack adhesive on the face adjacent a carrier web.

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**CLINGABLE FILM LABEL ASSEMBLY AND METHOD**

**BACKGROUND AND SUMMARY OF INVENTION:**

This invention relates to a clingable film label assembly and method and, more particularly, to an assembly that has the capability of clinging to a variety of surfaces unlike the prior art clingable labels which were suited only for application to glass.

Of increasing popularity are labels that cling to glass to indicate information on lubrication at a certain mileage, passing of pollution tests, etc. But the need for such clingable labels is not restricted to applications involving windshields but can be used to advantage on other surfaces, transparent or not.

The invention includes a film such as a polyester to which a low-tack pressure sensitive adhesive has been applied. This is provided to the user on a carrier web. In some instances, the carrier web may be equipped with a varnish-type coating to enhance the release properties when the film label is later removed. Also within the scope of the invention is the provision of a variable information-receptive patch which can receive after-imaging by ballpoint pen, impact printer, thermal transfer printer, laser, etc. This is in addition to the fixed information which is advantageously printed on the film label prior to delivery to the end user.

Other objects and advantages of the invention may be seen in the ensuing specification.

**BRIEF DESCRIPTION OF DRAWING:**

The invention is described in conjunction with the accompanying drawing, in which --

FIG. 1 is a fragmentary plan view of a product embodying teachings of the invention;

FIG. 2 is an enlarged sectional view taken along the sight line 2-2 applied to FIG. 1;

FIG. 3 is a schematic side elevational view of apparatus employed in the practice of the invention for the manufacture of the inventive clingable film label assemblies;

FIG. 4 is a view similar to FIG. 1 but of a modified form of the invention; and

FIG. 5 is a view similar to FIG. 2 but taken along the sight line 5-5 as applied to FIG. 4.

DETAILED DESCRIPTION:

Referring to FIG. 1 the numeral 10 designates generally a string of interconnected form lengths made up of a web generally designated 11 and divided into discrete lengths 11a, 11b, etc. As seen in FIG. 2, the form length is hatched to indicate paper but it will be appreciated that other materials may also serve advantageously as supports for the clingable labels of the invention. Usually, the form lengths 11a, 11b, etc. are produced continuously and conveniently converted to rolls, stacks or zig-zag folded packs for shipment -- see the left side of FIG. 3.

The lines of transverse perforation 12 define the ends of each form length and the entire string is equipped with line holes 13 defining a control punch margin 14 along at least one longitudinally extending side 15.

Normally, line holes and therefore control punch margins, are provided along both longitudinal sides for better control of the web during both manufacture and any subsequent processing -- as through a computer printer. However, for simplicity of presentation, the other control punch margin has been omitted from FIG. 1 and when the base stock web is just a sheet, both margins are usually omitted.

It will be seen in FIG. 2 that the web 11 in this embodiment includes a continuous sheet of paper 16

having an upper surface 17. In one advantageous embodiment, the surface 17 is equipped with a UV varnish 18. This facilitates detachment therefrom of the clingable label generally designated 19. This includes a Polyester label 20 equipped with a low tack adhesive 21 on the face 22 thereof confronting the web 11. So, the invention includes the overall label assembly A which includes web 11 consisting in the illustrated embodiment of the paper web 16 and varnish coating 18 and the label subassembly S consisting of the polyester ply 20 and adhesive coating 21.

It is believed that the invention can be further understood by describing the method of producing the label-equipped form and this is set forth following in connection with FIG. 3.

The Method of Production

Referring now to FIG. 3, the numeral 23 represents a roll of starting material which includes the label portion 19 or subassembly S, i.e., the polyester ply 20 and the low tack adhesive 21. Additionally, the web 24 being unwound from the roll 23 includes a carrier in the nature of a release liner which is peeled away from the continuous polyester web as at 25 and rewound into a roll as at 26 for disposal. A suitable commercially available product for this purpose is designated 2 mil Top Coated/AWB38R/40# and available from Catalina Plastic & Coating Corp. located in Calabasas Hills, CA. More particularly, the polyester is a clear 2 mil film which has been top-coated to enhance printability. It is supplied with an adhesive designated AWB38R. The liner is also provided and is designated a 40 pound liner. More generally, the polyester label is advantageously a top coated, clear imprintable film having a thickness of the order of about 0.5 to about 4.0 mils. The low tack adhesive is advantageously a water-based, acrylic, removable adhesive and in the illustration given is applied at a coat weight of 12

pounds per 17 x 22 x 500 ream (1300 square feet). Advantageous results are obtained with a ream coating in the weight range of about 3 pounds to about 15 pounds.

Still referring to FIG. 3, the web 24 is seen to pass around a drawroll and turning arrangement generally designated 27 so as to deliver the web 24 along a generally linear path as indicated by the arrow 28. Preferably prior to the removal of the release liner web 25, the composite polyester web and liner is printed at station 29 to provide fixed information for the label as at 30 in FIG. 1. This can take a variety of printed indicia, depending on the end use of the label subassembly. In any event, the indicia 30 is the same from label to label, hence the designation "fixed".

Also, the label web is equipped with a coating patch at the station 31 to develop the patch 32 seen in FIG. 1. This is intended to receive "variable" information, viz., information peculiar to the individual label and normally differing from label to label. However, it may be the same from label to label -- as for example, the name of a sales contact. So it includes information that is generally applied at a site different from the site of manufacture.

In the illustration given, both the printing 30 and the coating 32 are applied to the lower side of the web 24 (as illustrated), i.e., the side opposite that equipped with the release liner -- and before the liner 25 is removed. An advantageous type of coating can be a member selected from the class consisting of water based, opaque, imprintable flexo inks.

The illustrated embodiment made use of the product designated T-1630 available from Custom Printing Inks, located in San Diego, CA. For laser printing, an ink from Environmental Inks & Coatings designated Film III opaque white EC007094 in addition to the T-1630 product would accept a laser image.

Both are applied at about 0.15 pounds per 1300 square foot ream. Slightly higher weights are advantageous for impact printing, viz., of the order of about 0.30 pounds per ream.

After the release liner 25 has been removed, the resultant web 33 (consisting of the continuous polyester ply 20 and low tack adhesive coating 21) is passed around a vacuum drum 34 which operates in conjunction with a cutoff roll 35 having knives 36 to generate a series of segments 19 (i.e., subassemblies S) for application to the web 11. The vacuum drum 34 has a surface speed greater than the speed of the web 33 so as to deliver the segments 19 in spaced relation as illustrated in FIG. 3 and which can be readily appreciated from a consideration of FIG. 1. The segments are conveniently square-cornered as a result of the engagement of the knives 36 with the drum 34. Alternatively, the label may have rounded corners if a die is used.

A source of web 11 (not shown) provides the web 16 to travel along a linear-extending path P and advantageously may be coated at station 37 with a UV varnish to provide the layer 18 and therefore the web 11. A suitable UV varnish is a Northwest 8354A and, more generically, may be a member selected from the class consisting of offset UV curable varnishes. The specific product used to advantage in the practice of the invention is obtainable from Northwest Coatings Corporation located in Oak Creek, WI and is applied at about 0.4 pounds per 1300 square feet with advantageous results being obtainable with coating weights of the range of about 0.1 to about 1.0 pounds per ream. The web 16 as illustrated is a 20-pound bond paper available under designation 20# OCR Bond from Union Camp, located in Wayne, NJ. A wide variety of carrier or support webs 11 or 16 can be used for this purpose.

The web 11, in proceeding along the path P,

encounters the vacuum drum 34 and passes through the nip defined by the vacuum drum 34 and the cooperating drum 38 so as to receive the adhesive side of the label 19. Thereafter, the composite web with label 19 passes through a weakening assembly generally designated 39 which, in the illustration given, has a perforator 40. This results in the across perforation lines 12. Equally advantageously, the assembly 39 may sever the web so as to provide stacks of forms, each containing a label 19. As illustrated at the extreme left in FIG. 3 the resultant product may be a stack 41, a zig-zag folded product 42 or a roll 43 of product.

In summary, the clingable film label assembly A includes a carrier web 11 with a polyester label 19 or subassembly S mounted thereon. The label has a rear face 22 which confronts the carrier web 11 and which has on the rear face a low tack adhesive 21. With this arrangement, once the label 19 is removed from the carrier 11, it may be applied to a surface to which it will cling in substantially conforming relation. The polyester 20 advantageously is top coated imprintable film and has a thickness of from about 0.5 mil to about 4.0 mil.

The adhesive 21 is advantageously a water based removable acrylic and is applied in an amount of about 3 to about 15 pounds per 1300 square feet of label area.

The assembly further includes a composite web 11 (in the illustration of FIGS. 1-3) and which includes a carrier web 16 and a varnish coating 18 applied to the surface 17 of the web 16. The varnish is placed at least on the surface of the web 16 substantially over the area of that surface confronting the label 19. The varnish advantageously is an offset, UV curable and low release varnish and is applied to the carrier web surface in an amount of about 0.1 pounds to about 1.0 pounds per 1300 square feet.

In addition to the fixed printed area 30 (see FIG. 1), the invention provides a patch or second area 32 which can receive variable information. A wide variety of variable information may be applied, depending upon the use to which the label assembly is put and the information provided at 30. It may be a mileage figure, a date figure, a person's identity, etc. -- but which is normally applied at a site different from the processing line seen in FIG. 3. Advantageous for this purpose is a coating of water-based, flexo printable opaque ink applied in an amount of about 0.25 to about 2.5 pounds per 1300 square feet of surface.

Embodiment of FIGS. 4 and 5

The embodiment of FIGS. 4 and 5 is very much the same as that of FIGS. 1 and 2 but with the exception that the UV varnish coating of the carrier web 11 is omitted. Thus, the carrier web 116 has its upper surface 117 confronting directly the low tack adhesive layer 121.

As before, the polyester layer of the label 119 is designated 120 and has an undersurface 122 equipped with the low tack adhesive 121. The sectional view in FIG. 5 also shows the line holes 113, being counterparts of those seen in FIG. 1.

In each of FIGS. 1 and 4, there is a corner peeled back to reveal the underside of the label being coated with the low tack adhesive 21 or 121, as the case may be. In the case of the peeled back exposed portion in FIG. 1, the surface exposed is the UV varnish layer 18. In contrast, the exposed surface in FIG. 4 is the carrier web 116.

While in the foregoing specification a detailed description of the invention has been set down for the purpose of illustration, many variations in the details hereingiven may be made by those skilled in the art without departing from the spirit and scope of the invention.

## WE CLAIM:

1. A clingable film label assembly comprising a carrier web and a polyester label mounted thereon, said label having a rear face confronting said carrier web and a front face, a low-tack adhesive on said rear face whereby once said label is removed from said carrier web and applied to a surface, it will cling thereto.

2. The assembly of claim 1 in which said adhesive is a water-based, removable acrylic.

3. The assembly of claim 2 in which said adhesive is present in an amount of about 3 to about 15 pounds per 1300 square feet label area.

4. The assembly of claim 1 in which said polyester is a top coated, clear imprintable film.

5. The assembly of claim 4 in which said polyester has a thickness of from about 0.5 mil to about 4.0 mil.

6. The assembly of claim 1 in which said carrier web has a surface confronting said label, said carrier web surface being equipped with a UV varnish substantially over the area of said surface confronting said label.

7. The assembly of claim 5 in which said varnish is present on said carrier web surface in an amount of about 0.1 pounds to about 1.0 pounds per 1300 square feet.

8. The assembly of claim 1 in which said assembly is equipped with a patch area having a variable information receptive patch thereon.

9. The assembly of claim 7 in which said patch area is provided by equipping said front face with a coating of a water-based, opaque, imprintable flexographic ink.

10. The assembly of claim 8 in which said coating is present in an amount of about 0.25 to about 2.5 pounds per 1300 square feet.

11. The assembly of claim 1 in which said label is equipped with fixed information printed in one area and a coated area separate from said fixed printed information area adapted to receive variable information.

12. A clingable film label assembly comprising a carrier

web and a polyester label mounted thereon, said label having a rear face confronting said carrier web and a front face, a low-tack adhesive on said rear face whereby once said label is removed from said carrier web and applied to a surface, it will cling thereto, said adhesive being present in an amount of about 3 to about 15 pounds per 1300 square feet of label area, said polyester label having a thickness of about 0.5 mil to about 4.0 mil.

13. The assembly of claim 12 in which said label has square corners.

14. A method of making and using a clingable label comprising the steps of providing at a first site a carrier web and advancing said carrier web along a first path, providing a label web and advancing said label web along a second path, printing said label web while the same is in said second path, said label web being a polyester equipped with a low-tack adhesive on one face thereof, separating said label web into a series of discrete labels and introducing said labels sequentially into said first path, applying said labels sequentially to said carrier web, removing said carrier web to a second site, detaching a label from said carrier web and applying it to a surface.

15. The method of claim 14 in which said steps include providing at said second site a surface other than glass and applying label to said other than glass surface in clinging relation thereto.

16. The method of claim 14 in which said adhesive is a water-based, removable acrylic.

17. The assembly of claim 16 in which said adhesive is present in an amount of about 3 to about 15 pounds per 1300 square feet.

18. The method of claim 14 in which said carrier web has a surface confronting said discrete labels and coating said surface with a UV varnish over that area of said surface confronting said labels.

19. The method of claim 18 in which said UV varnish is present in an amount of about .1 to about 1 pounds per 1300 square feet.

20. The method of claim 14 in which said steps include printing said label web while the same is in said first path.

21. The method of claim 14 in which said steps include equipping said labels at said first site with a patch of coating adapted to receive variable information.

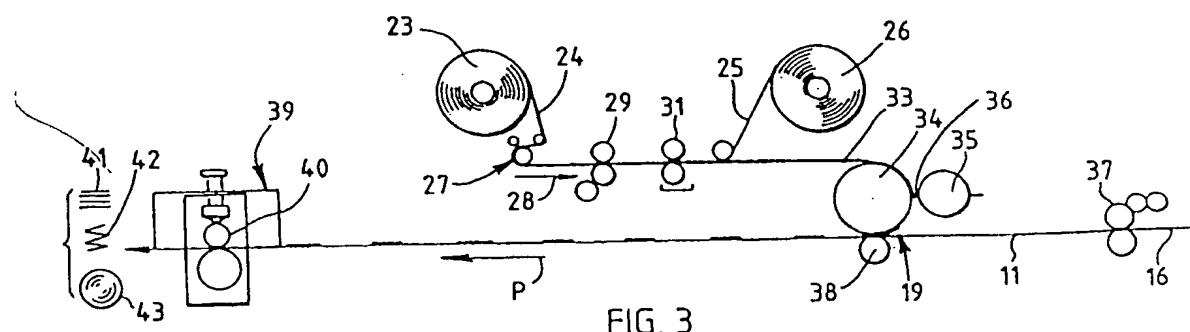
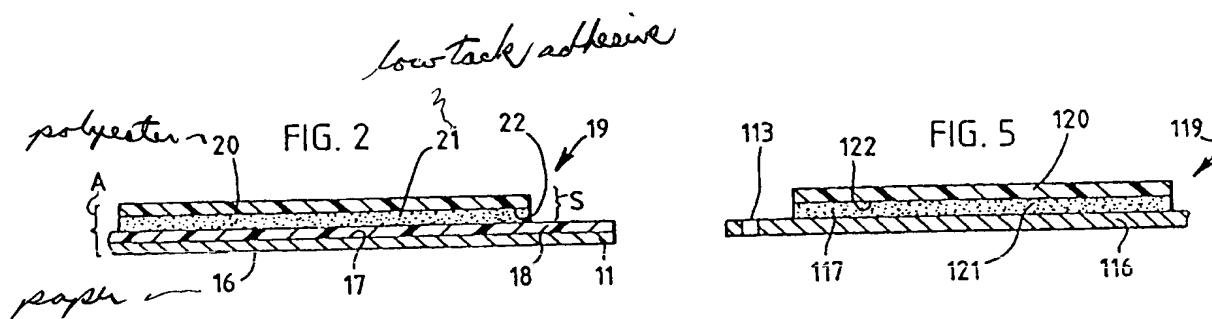
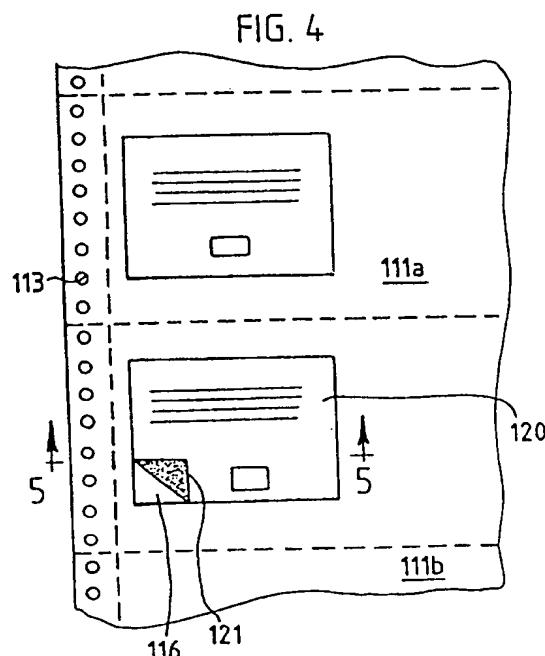
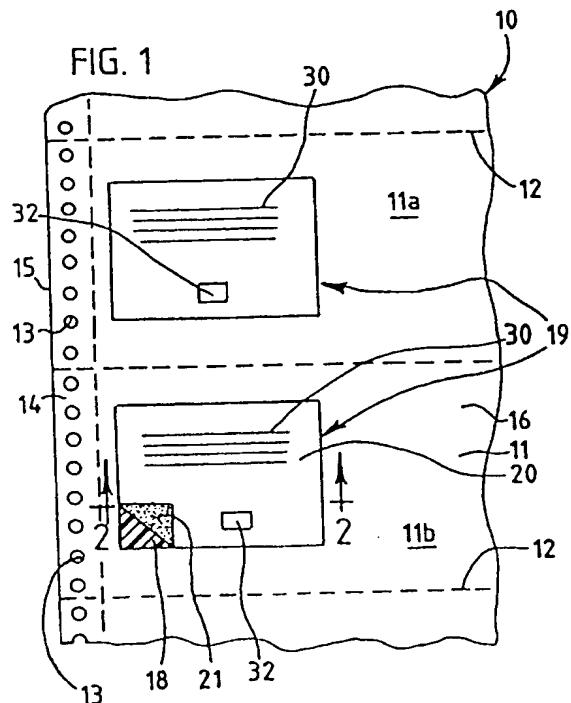
22. The method of claim 21 in which said coating is a water-based, flexographic printable ink present in an amount of from about .25 to about 2.5 pounds per 1300 square foot.

23. The method of claim 14 in which said steps include at said first site providing an area on each said label adapted to receive variable information and also providing in a different area fixed printed information and at a site different from said first site applying variable information to said variable information site.

24. The method of claim 14 in which said separating step includes providing a series of labels with square corners.

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